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Restoring degraded tuart woodlands is a significant challenge, requiring coordinated activities between research scientists and community to ensure preservation of this important ecosystem.

Overcoming challenges to restoration

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Since European settlement, large areas of Australia have been degraded by various anthropogenic disturbances. This large-scale degradation has lead to a growing desire from the community, conservationists, scientists and land managers to develop techniques to restore these areas. However, restoration faces a range of ecological, economic and social challenges which need to be overcome to ensure restoration projects are successful in the long term.

Ecological challenges

Ecological challenges encountered in broadscale restoration include on-ground issues such as the availability of propagules, the ability to germinate a large range of species, successful control techniques for invasive species (pre and post restoration), and choice of species available (functional types, keystone species, faunal requirements, palatability and competitive ability). There are also the emerging challenges of a reduction in rainfall, higher temperatures, and perhaps a higher risk of frost events.

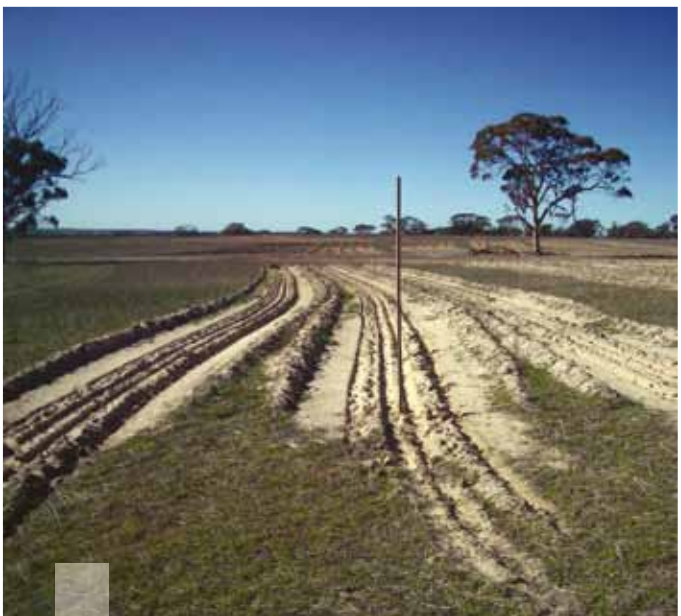
Lack of available propagules in one of the major hurdles that many restoration programs face. In addition, plant species may need to be selected based on their ability to meet multiple goals, including functional and structural characteristics, as well as a species' ability to compete with high weed loads. As a result of these ecological filters, the restored vegetation may be very different from the one practitioners had in initial planning stages.

Financial challenges

Resources made available for restoration are often quite limited. Therefore, expensive machinery or propagules may be out of reach of some projects. The longer term significance of some species is also important, and restorationists must determine the best long-term ecological 'bang for your buck'. Given these ecological and economic challenges, the resultant vegetation community may be very different from the one practitioners had in mind at the planning stages of the project.

Socio-political challenges

Restoration projects face an array of social-political challenges. These include the choice of site to be restored, the goals and values for that site, personal preferences, the amount of community support and time and labour available to the project, especially in the long term for on-going maintenance (e.g. fire control, weed control). These are primarily human challenges, and unless overcome, ongoing commitment to restoration projects will likely be limited.



Agricultural fields can be particularly challenging to revegetate due to the complete removal of vegetation as well as altered soil structure and composition. This photo shows an old-field revegetation trial which was a collaborative effort between researchers, private landholders, Department of Environment and Conservation staff and a fertiliser company.

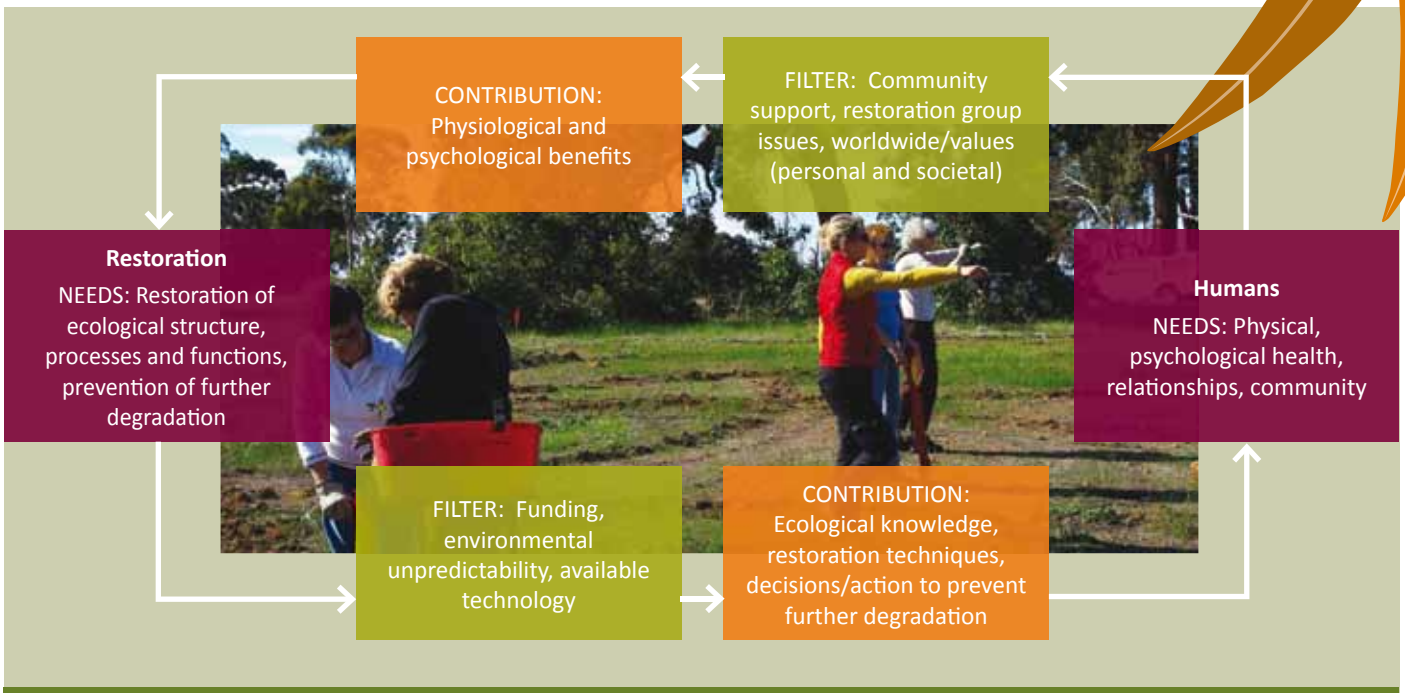


Figure 1 Reciprocal restoration model (modified from Geist and Galatowitsch 1999) illustrating the mutual benefits for community participants and restoration projects.

Overcoming challenges: collaboration with the community

Overcoming these barriers may be significantly helped with active and on-going collaboration with the community. Community groups are often seen simply as a group of individuals for use as cheap labour. However, commitment to, and success of, restoration projects could be increased by development of a beneficial relationship between humans and the natural environment, which will work towards overcoming at least financial and socio-political barriers to restoration.

Volunteers from the Friends of Island Point, Judy Olsen and Lyn O'Brien assisting with monitoring of revegetation trials.

The benefits of community involvement include the participation of hard working, enthusiastic people with a depth of local knowledge, experience and a sense of stewardship that can drive and sustain support for the restoration project, despite these challenges. But this is not a one way street (Figure 1). Community participants also benefit from their involvement with restoration projects. Benefits include restoring community spirit, improving agency-community relations as well as providing personal psychological and physiological benefits.

Conclusions & Recommendations

Restoration projects, particularly on public lands, may be more successful in the long term when the community, restoration ecologists, managers and practitioners create an evolving restoration plan together. Perhaps working together in the early stages of planning a restoration project will enhance the benefits for both the restoration area and the community involved.

Acknowledgements

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References

1. Geist, C. and Galatowitsch, S.M. (1999). Reciprocal model for meeting ecological and human needs in restoration projects. *Conservation Biology* 13: 970–79.
2. Ruthrof, K. X. and Valentine, L. E. (2010) Ecological, economic and social challenges, restoration filters and planning for the unknown. *Australasian Plant Conservation* 19 (3) 34-35.